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Discovery of the water scavenger beetle genus *Brownephilus* Mouchamps in Turkey (Coleoptera, Hydrophilidae, Hydrophilini)

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Abstract

The recently described *Hydrochara major* İncekara, Mart, Polat, & Karaca, 2009 from Turkey is transferred to the genus *Brownephilus* Mouchamps. New records and habitat information are given for the species, as well as diagnostic features for separating it from the only other described member of the genus, *B. levantinus* Balfour-Browne. The discovery of *Brownephilus* in Turkey marks the first time the lineage has been found since its original description more than seventy years ago.

Keywords

Aquatic beetles, Hydrophilidae, Middle East, Turkey, new combination

Introduction

Members of the Hydrophilina (or "giant water scavenger beetles") are common and readily collected in all biogeographic regions. Defined by their large size and prominent sternal keels, they are easily distinguished from other groups of hydrophiloids. Recently, Short (2010) presented a complete review and phylogenetic analysis of the subtribe. In addition to the description of an enigmatic new genus from Vene-

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zuela, Short (2010) elevated *Brownephilus* Mouchamps, 1959 from a subgenus of *Hydrobiomorpha* to full generic status. The taxon *Brownephilus*, diagnosed by having a broadly emarginated clypeo-labral margin but lacking long hairs on the antennal club, was erected for a single species hitherto known only by two specimens from "Palestine".

In a recent review of the *Hydrochara* of Turkey, İncekara et al. (2009) described an unusually large new species of the genus, *H. major*. The authors note that the specimens represent the largest known examples of the genus *Hydrochara* yet described. However, the male genitalia of the species bear striking resemblance to that of *Brownephilus levantinus* (Balfour-Browne, 1939), which is also a very large species of similar size to *H. major*. We have made additional collections of *H. major*, including the first known females, and confirm that it is not a member of the genus *Hydrochara*, but a second species of *Brownephilus*. The species can easily be excluded from *Hydrochara* by possessing a broadly emarginated clypeo-labral margin (which, at the time the species was described, would have assigned the species to the genus *Hydrobiomorpha*; *Brownephilus* was not yet elevated to its current rank). The lack of long hairs on the antennal club and distinctive aedeagus further unambiguously place the species within the genus *Brownephilus*.

Brownephilus major **(İncekara, Mart, Polat, & Karaca, 2009), comb. n.**

Figures 1–2, 4–5

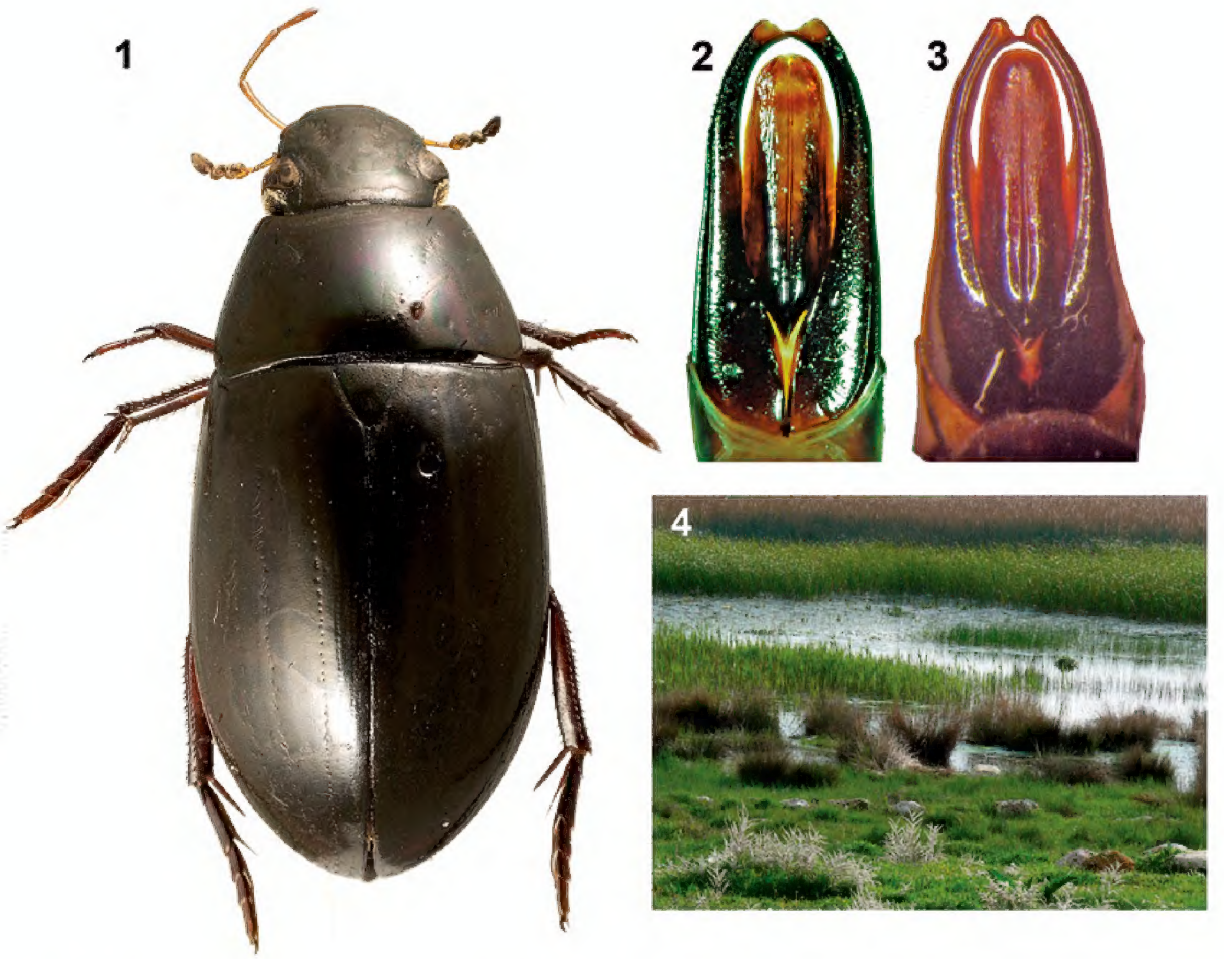
Hydrochara major İncekara, Mart, Polat, & Karaca, 2009: 318.

Type locality. Turkey: Samsun Province, Ondokuzmayıs, Fish Lake, 41°35'10"N, 36°06'42"E, 0 m elev.

Material examined. TURKEY: Afyon Province: 2 ♂♂, 3 ♀♀, Dinar (Karakuyu Lake), 38°04.587"N, 30°16.505"E, 1020 m, 22.V.2009; 1 ♂, 1 ♀, same locality, 20.VI.2009 (specimens are deposited in the Gazi University Zoological Museum, Ankara, Turkey, and the Snow Entomological Collection, University of Kansas, Lawrence, USA).

Differential diagnosis. Total body length 20.0–21.5 mm. Very similar to *B. levantinus*, from which it may be distinguished by the shape of the aedeagus: the outer margins of the parameres are slightly sinuate medially, with the apex noticeably prolonged apically in *B. levantinus* (Fig. 3) while they are straight with the apex only slightly prolonged apically in *B. major* (Fig. 2).

Biology. All collecting events for this species were from the margins of moderately to densely vegetated, standing waters (Fig. 4).



Figures 1–4. 1 *Brownephilus major*, dorsal habitus **2** *B. major*, aedeagus **3** *B. levantinus*, aedeagus (holotype) **4** Karakuyu Lake, Turkey, habitat of *B. major*.

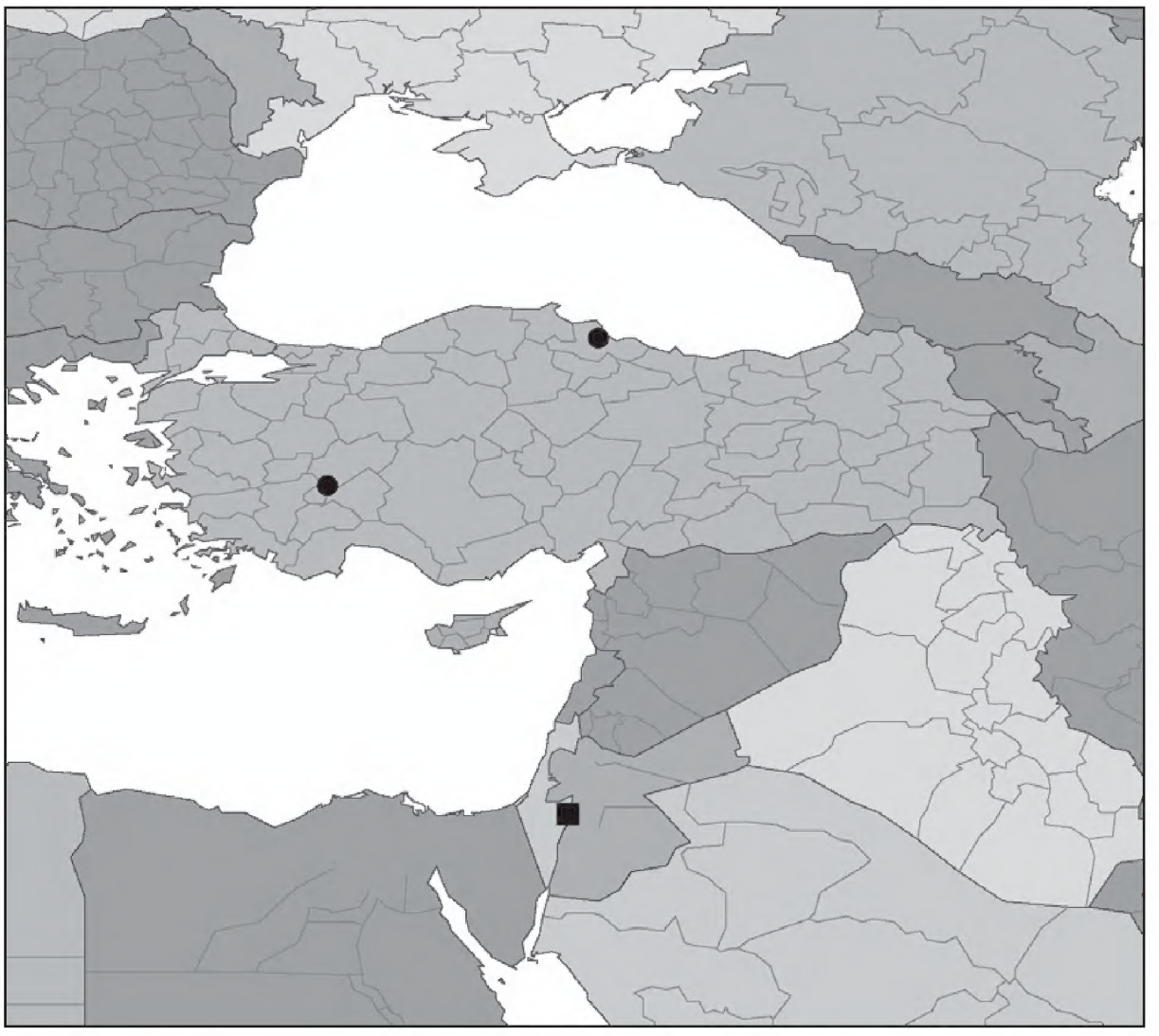


Figure 5. Known distribution of *Brownephilus* species: *B. major* (●); *B. levantinus* (■).

Discussion

The rediscovery of the genus *Brownephilus* is significant as its taxonomic and phylogenetic placement has been enigmatic, the genus was known from only two slightly damaged specimens, and nothing was known of its biology or distribution.

The locality where we recollected the genus (Karakuyu Lake) is included in the Ramsar List of Wetlands of International importance under the UNESCO's Convention on Wetlands of International importance especially as waterfowl habitat. The lake, with a total area of 1220 ha and a maximum depth of 3.5 m, is fed by both surface and groundwater (Nergiz and Tabur 2007).

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